

SUPPORT FOR THE AMENDMENT

Support for the amendment to claims 1 and 2 is found on page 1, lines 4-6 of the specification. Support for claim 3 is found beginning on page 3, line 17 through page 4, line 20 of the specification. Support for claim 4 is found beginning on page 4, line 21 through page 5, line 8 of the specification. Support for claim 5 is found beginning on page 5, line 9 through page 6, line 25 of the specification. Support for claim 6 is found on page 7, lines 1-22 of the specification. Support for claim 7 is found on page 8, lines 7-9 of the specification. Support for claim 8 is found on page 12, lines 3-4 of the specification. Support for claims 9 and 12 is found on page 12, lines 9-13 of the specification. Support for claim 10 is found beginning on page 12, line 14 through page 13, line 6 of the specification. Support for claim 11 is found on page 13, lines 9-11 of the specification. Support for claim 13 is found on page 13, lines 12-14 of the specification. Support for claim 14 is found on page 13, lines 24-25 of the specification. Support for claim 15 is found on page 14, lines 3-6 of the specification. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1-15 will now be active in this application.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a hair styling composition.

Hair styling as a cosmetic process can yield mixed results as the act of styling can often cause damage to the hair in terms of split ends and broken hair such that effective styling methods producing reduced split ends and broken hair are sought.

The claimed invention addresses the problem by providing a hair styling composition comprising a film forming polymer and a diamide compound. Applicants have discovered that the combination of a film-forming polymer and diamide provides for improvements in hair stiffness, a reduction in the percentage occurrence of split ends and broken hairs and voluminosity of hair, as compared with a film-forming polymer alone.

As evidence of such an improvement in stiffness, split ends and broken hairs and voluminosity of hair, the examiner's attention is directed to the data appearing on pages 19, 22 and 24, Tables 1, 2 and 3 of the above-identified specification which are reproduced below:

Table 1

(Wt.%)	Ex. 1	Ex. 2	Ex. 3	Comp. Ex. 1
Acrylamide/alkyl acrylate/methoxypolyethylene glycol methacrylate copolymer ¹⁾	6.0	6.0	6.0	6.0
Phosphoric acid (75 wt.%)	0.5	0.5	0.5	0.5
Diamide compound (F)	2.0	3.0	2.0	-
Cetyloxypropyl glyceryl methoxypropyl myristamide ²⁾	-	-	0.5	-
Ethyl alcohol	Balance	Balance	Balance	Balance
Stiffness	4.0	4.6	4.2	2.8
Percent occurrence of split ends and broken hairs	51	31	39	100

- 1) "RP77S", trade name; product of Kao Corporation
- 2) "AQUACERAMIDE", trade name; product of Kao Corporation

Table 2

(Wt.%)	Ex. 4	Ex. 5	Ex. 6	Comp. Ex. 2
Vinylpyrrolidone/N,N-dimethylaminoethyl methacrylate copolymer diethyl sulfate ¹⁾	2.5	2.5	2.5	2.5
Diamide compound (F)	2.0	4.0	2.0	-
Collagen hydrolysate ²⁾	-	-	1.0	-
Polyoxyethylene (9) tridecyl ether	1.0	1.0	1.0	1.0
Ethanol	10.0	10.0	10.0	10.0
Purified water	Balance	Balance	Balance	Balance
Silkiness	4.0	4.8	4.6	1.8
Moisturized feel	4.0	4.6	4.2	1.6
Percent occurrence of split ends and broken hairs	62	53	67	100

3) "Gafquat 755N", trade name; product of Kao Corporation

4) "PROMOIS E-118D", trade name; product of Seiwa Chemical Industry Co., Ltd.

Table 3

(Wt.%)	Ex. 7	Comp. Ex. 3
Propylene glycol	3.0	3.0
Stearyltrimethylammonium chloride (28 wt.%)	1.0	1.0
Polyoxypropylene sorbitol	1.0	1.0
Polyoxyethylene hydrogenated castor oil	0.5	0.5
Polyoxyethylene tridecyl ether	1.0	1.0
Ethanol	10.0	10.0
Diamide compound (F)	2.0	-
Acrylamide/dimethyldiallylammonium chloride copolymer ¹⁾	1.5	1.5
Deionized water	Balance	Balance
Voluminosity (%)	46.3	61.0

1) "MERQUAT 550", trade name; product of Calgon Corp. (8.5 wt.% aqueous solution)

Examples 1 and 3 illustrate styling compositions in the absence of diamide compound (F) in the presence of principally only a film-forming polymer. Comparative Example 1 demonstrated a stiffness of only 2.8 and 100% occurrence of split ends and broken hairs.

In contrast, Examples 1-3, each contain the same film forming polymer **and** diamide compound (F), demonstrated greater stiffness and a significantly lower percentage occurrence of split ends and broken hairs ranging from only 31-51%. Thus, applicants observe an unexpected improvement in reduction of split ends and broken hairs as well as unexpected improvement in the stiffness for a hair styling composition containing both a film-forming polymer and a diamide compound.

Turning to the data in Table 3, Example 7 and Comparative Example 3 are identical composition but for the presence of a diamide compound in Example 7. In the presence of the diamide compound, the composition exhibited a voluminosity of only 46.3%, as compared with 61% in the absence of the diamide compound. Accordingly, the composition having the diamide compound exhibited an unexpectedly reduced voluminosity.

Table 2 illustrates compositions having the same components, varying the concentration of diamide as compared with a composition in the absence of diamide. The data shows a significantly reduced occurrence of split ends and broken hairs from the compositions containing both the film forming polymer and diamide as compared with the film forming polymer alone. Such results are nowhere disclosed or suggested in the prior art of record.

The rejection of claims 1 and 2 under 35 U.S.C. § 103(a) in view of the combination of Hoshino et al. (U.S. 6,685,953) and Cannell et al. (U.S. 6,800,302) is respectfully traversed.

The combination of references fails to disclose or suggest an improvement in hair stiffness, split ends and broken hairs and voluminosity of hair.

Hoshino et al. merely describes dermatological preparations comprising diamide compounds. The object of the reference is described as maintaining and reinforcing the water retention capacity and barrier functions of the horny layer, preventing or remedying skin troubles, protecting the hair with a penetrated component improving the touch and feel of the hair, and preventing or remedying chapping of the scalp (column 1, lines 50-60). There is no disclosure or suggestion that a diamide compound in combination with a film-forming polymer would improve any one of hair stiffness, split ends and broken hairs and voluminosity of hair.

Cannell et al. merely describes a composition which contains a film forming polymer but fails to disclose or suggest the claimed diamide compound. As applicants have provided evidence of an improvement in each of hair stiffness, split ends and broken hairs and voluminosity of hair through the combination of a film forming polymer with a diamide compound, the claimed invention is clearly not obvious in the reference and accordingly withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

The provisional rejection of claims 1-2 under claims 1-2 of copending application 10/417,114 is respectfully traversed.

U.S. '114 fails to claim a film-forming polymer. Conversely, none of the present claims recite the claim element of U.S. '114 of a dye. As the claims of U.S. '114 fail to claim the claim limitation of a film-forming polymer and the present claims fail to claim the claim limitation of U.S. '114 of a dye, neither claims are obvious over the other. Not only are the two applications lacking claims to elements of the respective claims but the examiner has provided **no evidence** in support of her assertion that one of ordinary skill in the art would be motivated to add dye into the claimed composition with the reasonable expectation of providing a styling hair dye or bleach. Applicants further note the fundamentally different uses of a hair styling composition which is a leave on type product and a hair dye/bleach

which is rinsed from the hair as part of its normal use. Accordingly withdrawal of the provisional rejection for obviousness-type double patenting is respectfully requested.

The provisional rejection of claims 1-2 for nonstatutory obviousness-type double patenting over claim 1 of copending application 10/418,112 is respectfully traversed.

Applicants respectfully note that a non-final rejection was mailed in U.S. '112 on April 5, 2006 and the USPTO records provide no indication of any response being filed. In the absence of a timely filed response, U.S. 10/418,112 should be held abandoned. Accordingly, withdrawal of the provisional rejection for obviousness-type double patenting is respectfully requested.

The provisional rejection of claims 1-2 for nonstatutory obviousness-type double patenting over claims 1-4 of copending application 10/694,775 is respectfully traversed.

None of the claims of U.S. '775 claim the claim element of a film-forming polymer. Conversely, none of the claims of the above-identified application recite a higher alcohol or a fatty acid or salt thereof. As such, neither set of claims are obvious over the other and accordingly, withdrawal of the provisional rejection for obviousness-type double patenting is respectfully requested.

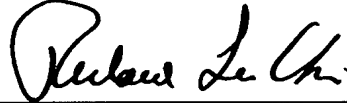
Moreover, as provisional rejections, the examiner is respectfully requested to pass the above-identified application to issue and address the issue of obviousness-type double patenting in the still active cases.

Application No. 10/694,774
Reply to Office Action of January 17, 2007

Applicants submit that this application is now in condition for allowance and an early notification of such action is earnestly solicited.

Respectfully submitted,

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